

1385A-1H-1

U1385A

Expedition 339: Mediterranean Outflow

1H-1-A

339-U1385A-1H-1-A\_SHLF3410781\_20111126063549



No Disturbance

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
-- 0 --	10YR 5/2			Medium laminated to fine by color change	Spars 2	SS @ 3cm	3 cm SILTY NANNOFOSSIL Ooze		
-- 10 --	A								
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --	5Y 5/2								
-- 60 --									
-- 70 --				Massive					
-- 80 --						SS @ 80cm	80 cm CLAYEY NANNOFOSSIL Ooze		
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

121

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A-1H-CC 1385A

1H-CCA

Expedition 339: Mediterranean Outflow

339-U1385A-1H-CC-A\_SHLF3410811\_20111128085731



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --	No Disturbance	2.5Y 4/2			MASSIVE	2 SAMPLES	↑	Foram present. Shell present. → mm scale		
-- 10 --										
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A-2H-1

1385

Expedition 339: Mediterranean Outflow

UI 35A 2H 2A

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
0									
10	10YR 4/3			NA	N/A	N/A			
20									
30							Shells present Forams Present		
40									
50									
60									
70									
80									
90									
100	2.5 4/2			MASSIVE			90 cm NANNOFOSSIL OOZE		
110									
120									
130									
140									
150									

NO CORE DISTURBANCE

SPARSE (2)

90 smear slide

90 cm NANNOFOSSIL OOZE

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A-24-2

1385A

24-2A  
4 2A

4

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --										
-- 10 --	Pull Apart				Δ					
-- 20 --										
-- 30 --		2.5 1/2						Forams Present.		
-- 40 --										
-- 50 --										
-- 60 --										
-- 67 --	crack									
-- 70 --										
-- 80 --										
-- 90 --					MASSIVE					
-- 90 --						SLIGHT. (B)	SS @ 90 ← 87?	87 cm MUDDY NANNOFOSSIL 0025		
-- 100 --		2.5 1/2								
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

increase in forams to base of section

1385A-2H-3

1385A 2H-J-A  
2 3A

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Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
-- 0 --									
-- 10 --									
-- 20 --	↑ 2.5/4%						Shell present Forams present		
-- 30 --	↑								
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --						SS @ 75	75 cm NANNO FOSSIL OOLITE WITH MUD		
-- 80 --				MASSIVE					
-- 90 --					SLIGHT (3)				
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

NO DISTURBANCE

MASSIVE

SLIGHT (3)

SS @ 75

75 cm NANNO FOSSIL OOLITE WITH MUD

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A-ZH-4

1285A

Expedition 339: Mediterranean Outflow

1385A-ZH-4A

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Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
-- 0 --									
-- 10 --									
-- 20 --									
-- 30 --	2.5/4/2								
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --	No DISTURBANCE			MASSIVE	SLIGHT (3)		75 cm CLAYEY NANNOFOSSIL ooze		
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385:A-2H-5

Expedition 339: Mediterranean Outflow

1385 A 2H5A

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
--0--										
--10--										
--20--										
--30--		2.54 4/1						Shell present foram present		
--40--										
--50--										
--60--										
--70--					MASSIVE			Occasional (present) pyritised burrows		
--80--	None					3 (SLIGHT)	SS @ 75	75 cm CLAYEY NANNOFOSSIL Ooze		
--90--										
--100--										
--110--										
--120--										
--130--										
--140--										
--150--										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385-24-6

1385A

Expedition 339: Mediterranean Outflow

13' A 24 6A.

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	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --										
-- 10 --								Forams present		
-- 20 --										
-- 30 --										
-- 40 --								Pyritised burrows present		
-- 50 --		254 4/1								
-- 60 --										
-- 70 --					MASSIVE					
-- 80 --						SLIGHT (3)				
-- 90 --	NONE							75 cm MUDDY ooze NANNO FOSSIL		
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MBIO

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



1385A-2H-7

1385A

Expedition 339: Mediterranean Outflow

1385A 2H 7

	Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --										
-- 10 --		2.54 4/1			Massive	Slight (3)		Forams present		
-- 20 --										
-- 30 --										
-- 40 --	None									
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A-2H-CC

1385A 2H CC

Expedition 339: Mediterranean Outflow



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --	None	2-54 4/1			Massive	4/1 (3)		Foams present		
-- 10 --										
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/26/2011
		Avg.	Max.						
0--	545/1 gray	clay		filled burrows	4	M sand	nanofossil clay 0- (off bottom)		
12									
20--									
30--									
40--									
50--									
60--									
70--									
80--									
90--									
100--									
110--									
120--									
130--	546/1	clay		f sand burrows	3		134 cm NANNOFOSSIL SANDY SILT (Minor, black patch)		
140--	undist.					(55)	134: discontinuous harder layer ? pyrite		
150--							150 end (continues)		



MAJOR LITHOLOGY: Terrigenous clay

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1/26/11
		Avg.	Max.						
-- 0 --							(interval continues) Interval		
-- 10 --	5Y 5/1 grey		clay		3 slight		14-52 vert groove on surface from pyritized burrow		
-- 20 --									
-- 30 --									
-- 40 --	5Y 4/1 burrow fill			burrows	biot contact				
-- 50 --							50 - a bit lighter		
-- 60 --	5Y 6/1			burrows			pyrite burrow		
-- 70 --					(75 55)				
-- 80 --									
-- 90 --									
-- 100 --					3 slight		foram, big		
-- 110 --									
-- 120 --		clay	M Sand (foram)				114 good burrow		
-- 130 --									
-- 140 --									
-- 150 --							(interval continues)		

MAJOR LITHOLOGY: Terrigenous clay MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	11/26/11
--0--							Continues from above		
--10--	10YR 6/1	clay	m sand forams				Interbedded layers of slightly different color (reddish, grayish) with slightly bioturbated contacts		
--20--					3 Slight				
--30--				~20cm thick bedded color alternation					
--40--									
--50--				pyt. burrow					
--60--				pyt burrow					
--70--									
--80--									
--90--	5Y 5/1	clay	m sand (forams)		slight 3				
--100--	None								
--110--									
--120--									
--130--									
--140--									
--150--									

*75 cm SANDY MUD (w/ Mammofossils?)*

*(SS)*

82-84 more forams visible

continues

MAJOR LITHOLOGY: *terry clay*

MINOR LITHOLOGY:



Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					PDF	
-- 0 --									
-- 10 --	5Y6/1	clay	M Sand forams		3				
-- 20 --							23 few forams in with clay		
-- 30 --									
-- 40 --							generally uniform w/ some color alternation in burrows slight bioturbation throughout		
-- 50 --				massive?					
-- 60 --									
-- 70 --	5Y6/1	Clay			3				
-- 80 --	undisturbed					(25) 78	75 cm SILTY NANNOFOSSIL Ooze		
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --				pyt burrow			pyritized burrow		
-- 140 --	5Y6/1	clay	M Sand forams		3				
-- 150 --									

MAJOR LITHOLOGY: Tenig clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	11/26/11
-- 0 --	undisturbed	10YR 6/1	clay	m Sand forams	burrows throughout	3		Overall; color alternation visible in burrows & some color change along core, but all pretty much the same		
-- 10 --										
-- 20 --										
-- 30 --					thick bedded ~50-100cm					
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --						3		gradational, bioturbated contact between slightly reddish above to gray below - maybe part of bedding interval		
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --		5Y 5/1	clay	m sand forams		3				
-- 130 --										
-- 140 --										
-- 150 --										

ns (SS)

75 cm MUD WITH NANNOFOSSILS

MAJOR LITHOLOGY: terrig clay

MINOR LITHOLOGY:

139 IW Sample tube 149



1385A-3H-7

Expedition 339: Mediterranean Outflow

U1385

S 3H7A

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Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	1/26/11
-- 0 --									
-- 10 --	5Y6/1	clay	m sand foss	bioturb	3		General. bioturbated clayey sediment w/darker burrow fill, all 1 interval		
-- 20 --									
-- 30 --						(3) 55	31 cm MUD WITH BIOGENIC GRAINS		
-- 40 --									
-- 50 --	Undisturbed	burrow fill 5Y5/1		57 pyrit. burrow	3				
-- 60 --		major 5Y6/1							
64									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY: tan clay

MINOR LITHOLOGY:



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1/26/11
			Avg.	Max.						
-- 0 --										
-- 10 --	Slight	5Y 6/1	clay	M sand forams	biot	3		bioturbated gray clay w/ forams visible on surface		
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY: Terrig clay

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1457 1/26/11
		Avg.	Max.						
-- 0 --									
	moderate								
-- 10 --									
	12								
-- 20 --									
	slight								
-- 30 --									
-- 40 --									
	44								
-- 50 --									
		clay	m sand forams						
-- 60 --		5Y6/1							
-- 70 --					3				
-- 80 --									
-- 90 --									
-- 100 --									
	Undisturbed								
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
		5Y6/1 clay	m sand forams		3				
-- 150 --									

Tenig clay  
Overall: continues from above, slight color variations in gray & slight bioturbations

75 cm MUD WITH NANNOFOSSILS

96 pyrot. bound

114 pyrot bound

MAJOR LITHOLOGY: Tenig clay

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1502 11/26/11
			Avg.	Max.						
-- 0 --	Undisturbed	10YR 6/1 Clay	m. Sand	forams	biot. throughout	3		overall gray clay with some color banding, bioturbated throughout.		
-- 10 --										
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --						3	(S) 15	75 cm CLAY WITH BIOGENIC GRAINS		
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --		5Y 6/1 Clay	m. Sand	forams		3				
-- 140 --					133 yr. buried					
-- 150 --										

MAJOR LITHOLOGY: *fine clay*

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
--0--									nava-f	11/26/11
--10--			clay	m sd. form.		3 <sub>11</sub>		Overall gray clay with some color banding.		
--20--								biotubated throughout the section.		
--30--								bluish color band.		
--40--								at . 140-142 and . 145-147.		
--50--										
--60--										
--70--	undisturbed.									
--80--		5Y 6/1			biotubated through the section.	3 <sub>11</sub>				
--90--										
--100--										
--110--										
--120--						3 <sub>11</sub>				
--130--										
--140--	140				biotubated contact.					
	142	5Y 5/1			d-k					
	145	5Y 6/1			"					
	147	5Y 5/1			"					
--150--		5Y 6/1				3				

55  
75cm  
75cm  
Biogenic CLAY

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1524 11/26/11
			Avg.	Max.						
-- 0 --										
-- 10 --										
-- 20 --		5Y 6/1	clay	m sand forams	pyrit burrow	3				overall: clay w/ alternating colors of gray, bioturbated, forams visible on surface
-- 30 --					Objct.					
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --		5Y 5/1	clay	m sand forams		3	SS 75cm	75cm NANNOFOSSIL MUD		
-- 80 --										
-- 90 --	UNDISTURBED				0 pyrit ▲					90 macrofossil Cléo Pyramidata Pteropod
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --		5Y 5/1	clay	m sand forams		3				
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY: ferruginous clay

MINOR LITHOLOGY:

JA

Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by: vanna-f	Date: 11/25/11
		Avg.	Max.						
	5Y 5/1	clay	m sd foram		3		0-17 dark gray clay slightly bioturbated		
				bioturbated contact			Scattered pyrite, black grains		
							Zoophcos. 45-46, 56-57 60-61, 63-64, 68-70, 73, 74, 75, 80,		
	5Y 8/1	clay	m sd. foram		3		17-80 Gray clay slightly bioturbated. Some gray color banding Scattered pyrite grains		
							80-134 gray clay slightly bioturbated.		
							75 cm NANNOFOSSIL MUD		
							chondrites 90-94		
				bioturbated contact			Zoophcos. 112-113.		
	5Y 8/1	clay	m sd foram		3		134-151. Dark gray clay slightly bioturbated. Scattered pyrite grains		
				bioturbated contact					
	5Y 5/1	clay	m sd foram		3				

undisturbed

55  
75  
cm

151 cm

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

1385A-4H6A  
2001-01-10  
RDF

Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1/26/01
		Avg.	Max.						
-- 0 --									
-- 10 --	5Y5/1	clay	m sand		3		overall: bioturbated gray clay w/ slight color banding and darker sed in burrows		
-- 20 --				17 200. ))))))					
-- 30 --				23 ))))					
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --	5Y6/1	clay	m sand forams		3		75 cm SILTY MUD WITH BIOGENIC GRAINS		
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --	5Y6/1	clay	m sand forams		3				
-- 144 --	VOID								
-- 150 --									

UNDISTURBED

144

MAJOR LITHOLOGY: *Tenig clay*

MINOR LITHOLOGY:



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: ROF	Date: 1615 11/26/11
		Avg.	Max.						
-- 0 --	5Y6/1	clay	m sand forams		3				
-- 10 --							overall: terrig clay w/ slight color alterations, possible contact @ 54 cm between 5Y6/1 & 5Y5/1 at 54 cm		
-- 20 --									
-- 30 --									
-- 40 --	5Y4	clay	m sand forams	44 pyrit burrow	3	SS 43cm	43cm MUDDY NANNOFOSSIL OOZE		
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --	5Y5/1	clay	m sand forams		3		Chondrites?		
-- 90 --	87								
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY: Terrig clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

1385A - 4HCCA



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: ROF	Date: 4/26/11
		Avg.	Max.						
--0-- --10-- --20-- --30-- --40-- --50-- --60-- --70-- --80-- --90-- --100-- --110-- --120-- --130-- --140-- --150--	5Y6/1	clay	m sand forams	119 200p ))))))	3		overall: gray ferrig clay w/ slight color changes in burrows		

MAJOR LITHOLOGY: gray ferrig clay

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	11/26/11
-- 0 --										
-- 10 --		5Y 4/1	clay	M Sand forams				0-53 gray clay w/ distorted layers & irregular pockets of darker material		
-- 20 --	slight disturbance				contorted bedding					
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --	crack					3		53 53-end gray ferric clay, bioturbated Some forams, some diagenetic coloring on burrows.		
-- 70 --		5Y 5/1	clay	M Sand forams						
-- 80 --								SS 75cm 75 cm MUDDY NANNOFOSSIL Ooze		
-- 90 --										
-- 100 --	86-104 crack UNDISTURBED					3				
-- 110 --										
-- 120 --										
-- 130 --					127 burrow w/ diag contacts					
-- 140 --		5Y 5/1	clay	M Sand forams						
-- 150 --		15D								

MAJOR LITHOLOGY: ferric clay

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RF	11/26/11
	5Y5/1	clay	m sand forams		3		overall: gray terrig clay, bioturbated w/ pyritized burrows & occ silt-filled (rare) burrows.		
				53 silt-filled burrow			53cm Muddy nanno ooze (pyrite 15%)		
							75cm MUDDY NANNOFOSSIL OOZE		
	5Y5/1	clay	m sand forams	74 silt-fill burrow 78 nodules (pyrite?) 83 hard	3				
				138 pyrite burrow					
	5Y5/1	clay	m sand forams	142 pyrite burrow	3				

UNDISTURBED

MAJOR LITHOLOGY: Terrig clay

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
-- 0 --							0-150.5	nano-f	11/26/11
-- 10 --			clay m. sol. forams		3		Overall gray clay w. with some color banding. Slightly bioturbated. Scattered black pyrite grains.		
-- 20 --									
-- 30 --									
-- 40 --	5Y 5/1 (dark)								
-- 50 --									
-- 60 --									
-- 67 --			gradual		3		6-6 Diacria? pteropod d=1mm		
-- 70 --							10-12 pipe filled pyrite		
-- 75 --							SS 75cm		
-- 80 --							75 cm: MUDDY NANNOFOSSIL Ooze		
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --	5Y 7/1 (light)								
-- 130 --									
-- 135 --			gradual						
-- 140 --									
-- 145 --	5Y 5/1 (dark)				3				
-- 150 --									

150.5 →

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					PDF	11/26/11
-- 0 --	5Y 6/1	clay	M sand forams				0-98 Gray tmg clay w/ moderate bioturbation, mostly color changes - a few silt-filled burrows  biot. lower contact		
-- 10 --					3				
-- 20 --				15 silt-filled burrow 22 silt-filled burrow 25 silt-filled burrow					
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 75 --							75 cm SS MUDDY NANNOFOSSIL Ooze		
-- 80 --									
-- 90 --					3				
-- 98 --	98			biot					
-- 100 --	5Y 6/1	clay	M sand forams	pyrit burrow			98-125 lighter gray w/ pyrit. burrows & zoophycos mod. bioturbation  biot. lower contact		
-- 110 --					3				
-- 120 --				pyrit. b. biot.					
-- 125 --	125								
-- 130 --	5Y 5/1	clay	M sand forams	sand-filled burrow			125-139 Darker interval, (? reddish) sand-filled burrow, bioturbated		
-- 139 --	139			biot.					
-- 140 --	5Y 6/1	clay	M sand forams				139 → end of core somewhat lighter interval w/ biot. into overlying unit, slight color banding		
-- 150 --					3				

MAJOR LITHOLOGY: Tmg clay

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
	5Y 7/1	clay	m sd foram		3		0-137. Carbonate ooze. slightly bioturbated. Scattered Pyrite.	nana-f	11/26/11
	more dark → gradual change upward.						11 Pyrite nodule filled burrow. 10-11 Zoophycos.		
undisturbed.							11 Pyrite nodule filled pipe. <b>SS 75cm NANNOFOSSIL Ooze WITH CLAY</b> 96-97 gray band. slightly dark		
	5Y 8/1				3		127-137. carbonates typical thin		
	137.			bioturbation contact			137-150. dark gray clay slightly bioturbated. Scattered Pyrite.		
	5Y 5/1	clay	m sd foram		3				

150 cm

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	11/26/11
							0-56 gray clay w/ bioturbation Some thinner beds due to color alteration, esp 39-44		
	5Y5/1	Clay	m sand forams		3				
				39 pyrot burrow					
	5Y5/1			54 5B 60) pyrot. burrow			56 biot. contact		
				)))))) )))))) )))))) )))))) )))))) ))))))			slightly lighter biot. clay w/ several Zoophycus burrows. some pyritized burrows		
				60 chert. con.					
UNDISTURBED	5Y6/1	Clay	m sand forams	0 pyrot. bur	3				
				0 pyrot. b.					
				0 p. b.					
				0 p. b.					
				Ostracod			127 biot. contact slightly darker interval biot clay ? reddish. sand filled burrow.		
	5Y5/1	Clay	m sand forams	0 sand-filled burrow	3				
							(SS) ← sandy-silty calcareous ooze (sand-fill)		
IW sample	5Y6/1	Clay	m sand forams	0 sand-filled b.	3		142 biot. contact slightly lighter interval bioturbated clay sand-filled burrow		

MAJOR LITHOLOGY: terrigenous clay

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

Depth	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
0			clay	in Sol forams.					nana-f	11/24/11
10					12-12 Zoothycos.			0-68. gray clay. slightly bioturbated. Scatter pyrite grains through the section.		
20		5Y.			19-19 Zoothycos.					
30	undisturbed.	7/1			24-25 Zoothycos.	3	SS	Zoothycos. 12-12, 19-19, 24-25., 53-54.		
40								34 cm: MUDDY NANNOFOSSIL Ooze		
50					53-54 Zoothycos. gradual.					
60		gradual change.			↑					
68 cm		5Y 5/1			62					
70										
80										
90										
100										
110										
120										
130										
140										
150										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow



Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
								hana-f	11/24/11
-- 0 --							0-12.		
	5Y 5/1	clay	m sd foram.		3		Dark gray clay. Slightly bioturbated. Scatter pyr. to grains.		
-- 10 --				bioturbation contact					
	5Y 7/1	clay	m sd foram.		3				
-- 20 --				base of core					
						PAL	12-24		
-- 30 --							light gray clay. Slightly bioturbated.		
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	11/26/11
--0--	moderately disturbed - flocculated							0-46		
--10--										
--20--										
--30--						3				
--40--	39 ^	10YR 6/1	clay	m sand forams				46		
--50--	un disturbed							Sharp but chemical		
--60--		5Y6/1	clay	m sand forams		3		lighter gray clay, bioturbated, Continues into next section occ pyritized burrows.		
--70--										
--80--								SS 75 cm: NANNOFOSSIL Ooze WITH MUD		
--90--										
--100--										
--110--					pyt. burr					
--120--					pyt burr					
--130--		5Y6/1	clay	m sand forams		3				
--140--										
--150--										

MAJOR LITHOLOGY: Terrig clay

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1924 11/26/11
		Avg.	Max.						
--0--	5Y 6/1	clay	m Sand forams		3		0-61 (continues from above) lighter gray, bioturbated clay, some reddish & greenish mottles, occ pyritized burrows		
--10--									
--20--									
--30--	UNDISTURBED	clay	m Sand forams	69 <sup>r</sup> ps. pyrit. burrow	3		61-127 bioturbated contact greenish grey bioturbated mud, some lighter burrow fills, some intervals with pyrit. burrow fills, larger interbeds near base.	SS	
--40--									
--50--									
--60--	UNDISTURBED	5Y 10/4 greenish gray	m Sand forams	57 large pyrit. burrow	3		75 cm: SILTY MUD NANNOFOSSIL Ooze		
--70--									
--80--									
--90--	UNDISTURBED	10YR 6/1	clay	m Sand forams	105-114 Numerous pyrit. burrows	3	127 - bottom gray bioturbated clay, with some reddish intervals, bioturbated		
--100--									
--110--									
--120--	UNDISTURBED	10YR 6/1	clay	m Sand forams	burrow fill granular	3			
--130--									
--140--									
--150--	UNDISTURBED								

MAJOR LITHOLOGY: terrigenous clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: PDF	Date: 11/26/01
		Avg.	Max.						
-- 0 --							0-150		
-- 10 --	5Y6/1	Clay	m sand forams	biot	3		gray clay w/ color bands <del>not</del> bioturbated but primary lamination may be visible		
-- 20 --				Dyt burr					
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --				Dyt burr					
-- 70 --					3				
-- 75 --	5Y6/1	clay	m sand forams	(not stiff) 7% pyrite in shell?			75 cm SS 75 cm NANNOFOSSIL Ooze WITH MUD		
-- 80 --	Undisturbed			82 "					
-- 84 --				84 "					
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 127 --				pyt. burr					
-- 130 --	5Y6/1	clay	m sand forams		3				
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1950 11/26/11
		Avg.	Max.						
-- 0 --	5Y6/1	Clay	m foram sand		3		0-30 (from above) gray mud, mottled/bioturbated		
-- 10 --									
-- 20 --				))))))					
-- 30 --				))))))					
-- 40 --	5Y5/1			35 pyrt. burrow	3		30 bioturbated contact. darker clay w/ interbedded lighter clay @ ~10cm thickness		
-- 50 --				49 pyrt. b.					
-- 60 --				57 pyrt. b					
-- 70 --				62 pyrt. b					
-- 80 --	Undisturbed			81 pyrt. burrow	3		75 cm: SS NANNOFOSSIL Ooze WITH MUD		
-- 90 --				))))))					
-- 100 --							99 bioturbated contact. lighter layer, bioturbated, some Zoophycus burrows		
-- 110 --	5Y6/1			)))))) ))))?)	3				
-- 120 --	5Y5/1						118 (to next core) section - bioturbated contact Somewhat darker gray clay, but interlayered w/ lighter & reddish material, bioturbated		
-- 130 --									
-- 140 --				137 138 pyrt 141 burrow	3				
-- 150 --	5Y6/1			)))))) ))))?)					

MAJOR LITHOLOGY: Terry Clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Depth	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: ROF	Date: 11/26/11
			Avg.	Max.						
0--		5Y5/1	clay	M Sand foram	pyt?					
10--			↓ all	↓ all	pyt?					
20--										
30--					pyt?					
40--					pyt?					
50--										
60--					pyt?					
70--								75 cm: SS NANNOFOSSIL OOZE WITH CLAY		
80--										
90--	UNDISTURBED									
100--		5Y6/1				3 4?		95 bioturbated contact 95-bottom of core lighter gray clay, bioturbated. Some zoophycus-		
110--					))))))					
120--					)))))) )))))) )))))) ))))))					
130--										
140--					pyt?					
150--										

MAJOR LITHOLOGY: Tenm clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	1/26/11
	5Y 6/1	clay	in sand forams				top - 13 lighter clay w/ some <sup>color</sup> banding		
	5Y 6/1	↓ all	↓ all		4		13 gradual/bioturbated contact		
	5Y 6/1	↓ all	↓ all		3		13-76 clay @ grades. from lighter to darker through the unit. bioturbated throughout but burrows visible due to color change		
				32 pyrol					
				39-41 big pyrot					
	5Y 5/1			57/84 pyrot broken & changed					
				70 pyrot red					
						SS	75 cm: NANNOFOSSIL Ooze WITH CLAY		
							biot. contact		
							76 7.6-98 darker clay unit with occ'l lighter burrow fills. biot lotta contact		
UN DISTURBED	5Y 5/1				3				
							98 98-bottom (continued) lighter clay unit, burrows more visible at the top. bottom contact in next section		
	5Y 6/1				3				
	5Y 6/1				3				
VOID									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/26/11
		Avg.	Max.						
	5Y 6/1	clay	m sand forams		3		lighter top-21 cm interval with some color variation due to bioturbation, Sharp bottom contact		
	5Y 5/1	↓ all	↓ all		3		sharp contact 21 more uniform mud, Sharp top, biot bottom 26 biot. contact		
UNDISTURBED	5Y 6/1				4		lighter gray clay with bioturbation. Some burrows. continues through Cc		
	5Y 6/1				4		SS 32 cm: NANNOFOSSIL Ooze WITH CLAY		
							bottom of section		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/24/11
			Avg.	Max.						
-- 0 --	Slight	5Y 6/1	Clay	M Sand forams	2 pyrity burrows	3		top-bottom (0-30) lighter gray clay, bioturbated		
-- 10 --										
-- 20 --	VOID									
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	1/26/11
0--	Soupy						0-30 lighter, sl. reddish clay w/ bioturbation & occ pyritized burrows. also pyrite grains in ? larger shells		
10--	10YR 5/1	Clay	m sand forams		3				
20--		↓ all	↓ all	pyt.					
30--				pyt burm			30 biot. contact		
40--	10YR 5/1				3		30-95 slightly darker reddish clay w/ bioturbation & color variation, slightly lighter from 48-62cm		
50--									
60--				pyt. b.					
70--									
80--							75 cm: SS MUDDY NANNOFOSSIL OOZE		
90--	10YR 5/1			pyt. b.			gradational / biot. contact		
100--	UN DISTURBED 10YR 5/1				3		95 slightly lighter biot. clay, some color bedding on scale of 2.5 to 10 cm, continues onto next section @ 18		
110--									
120--				pyt.					
130--									
140--	10YR 5/1				3				
150--									

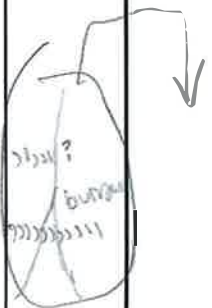
MAJOR LITHOLOGY: *Tany clay*

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	1/26/11
	10YR 6/1	Clay ↓ all	M sand forams ↓ all	?pyrite filling voids (not massive)	4		0-18 bioturbated clay, lighter with pyrite(?) grains filling voids. Unit seems quite well mixed by biot.		
							18 18-76 gradational / bioturbated darker, reddish clay unit with some (pronounced) variation in color due to bioturbation		
	10YR 5/1			37(L) side burrow w/ grains (? forams)  pyt. burrow	3	(SS) →	burrow fill is forams, silt (same mat'l as elsewhere)		
	10YR 5/1						75 cm: NANNOFOSSIL Ooze WITH CLAY bioturbated bottom contact		
	10YR 6/1				3	(SS) →	76 76-108 sl. lighter gray clay, still some red. bioturbated, gradual bottom contact (bioturbated)		
	10YR 5/1			pyt.	3		108 108-123 sl. darker reddish clay w/ bioturbation. becomes gray @ bottom of interval		
	10YR 5/1				4		123 123 - next section sl. lighter gray clay with some prominent burrows; incl vert burrow that extends 12 cm.  "Eiffel Tower" burrow		

UNDISTURBED



MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
								RDF	11/26/11
--0--							last sect on -21		
	10YR 6/1	Clay	m sand forams		4		lighter gray clay w/ bioturbation. less layering, maybe because of more bioturbation		
--10--									
				20 pyt.					
--20--							bioturbated bottom contact		
	10YR 5/1				3		21 21-31 slightly darker gray clay, some bioturbation, biot. bottom contact		
--30--									
							31 31-115		
--40--							Slightly lighter gray clay, few internal layers visible,		
	10YR 6/1				4				
--50--									
--60--									
--70--									
	UNDISTURBED								
--80--									
--90--									
--100--									
	10YR 6/1								
--110--									
--120--									
	5Y 6/1								
--130--									
--140--									
--150--									
	5Y 6/1				4		113 113- next section slightly darker clay, but seems less red. bioturbated, some		

75cm ss - Nannofossil ooze w/ clay

MAJOR LITHOLOGY: terrig clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	1/26/11
-- 0 --	5Y6/1	clay	fm sand forams				top - 27 slightly lighter gray clay, bioturbation, few primary structures		
-- 10 --					4				
-- 20 --		all	all	pyt.			bioturbated contact		
-- 30 --	5Y5/1				3		27-36 Slightly darker clay w/ some biot.		
-- 40 --	5Y6/1						36 bioturbated contact 36-97 slightly lighter clay w. bioturbation throughout.		
-- 50 --				pyt. burn	4				
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --				pyt. b.			97-138 bioturbated clay very sh. darker but appears to be a little less bioturbation - gradual/bottom contact bioturbated		
-- 110 --	5Y6/1				3				
-- 120 --									
-- 130 --									
-- 140 --	5Y6/1				3		138 - next section 138 - bioturbated, slightly lighter clay.		
-- 150 --									

MAJOR LITHOLOGY: Terry clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
								wana-f	11/26/11
-- 0 --		clay	med foram				0-75.		
-- 10 --				6-27 concrete			Bioturbated gray clay Scattered pyrite grains		
-- 20 --					3				
-- 30 --	5Y 5/1								
-- 40 --				•38 pyrite					
-- 50 --									
-- 60 --									
-- 70 --									
-- 75 --				bioturbated contact					
-- 80 --	5Y 4/1	clay	med foram	•80 pyrite	3		75-97. dark bioturbated gray clay scattered pyrite grains		
-- 90 --				•89 pyrite					
-- 97 --				bioturbated contact					
-- 100 --		clay	med foram				97-151.		
-- 110 --	5Y 5/1						bioturbated grey clay continue next section.		
-- 120 --				•117 pyrite	3				
-- 130 --				•131 pyrite					
-- 140 --				•142 pyrite					
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

15/cm

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					PDF	11/26/11
--0--	5Y5/1	clay	m sand forams		3		top-end of section all the same bioturbated slightly darker clay, some intervals have more pyrite than others. bottom contact in deeper section.		
--10--		↓ all	↓ all						
--20--				pyrite pyrite					
--30--				pyrite pyrite					
--40--									
--50--	5Y5/1			pyrite pyrite	3				
--60--				pyrite					
--70--				pyrite					
--80--									
--90--									
--100--	5Y5/1								
--110--				pyrite	3				
--120--									
--130--									
--140--									
--150--									

UNDISTURBED

75SS - Normal ooze w/ clay

Continues next core

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	11/26/11
-- 0 --	3F	5Y 5/1	Clay	M sand forams		3		top-end (from last section) slightly darker bioturbated clay w/some pyrite, bottom contact not in section		
-- 10 --			↓ all		☞ py+					
-- 20 --										
-- 27 --								27 SS - Nannoozoo w/ clay		
-- 30 --	undisturbed	5Y 8/1		↓ all		3				
-- 40 --										
-- 50 --										
-- 54 --								54		
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	1/26/11
0	5Y 5/1	Clay	<del>clay</del> m Sand forms				0-44 slightly darker bioturbated clay continues from above, no contact at bottom		
10		↓ all	↓ all	burrows					
20					4				
30									
40	5Y 5/1								
44	44								
44-51	VOID								
51	51								
60									
70									
80									
90									
100									
110									
120									
130									
140									
150									

MAJOR LITHOLOGY: Terrigenous clay

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	9/26/11
-- 0 --		5Y 6/1	Clay	in Sand forams		3		0-63 slightly lighter biot. clay with associated color variations		
-- 10 --			↓ all	↓ all						
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --		5Y 5/1			pink pyrite pyrite	3		bioturbated contact 63 slightly darker ferric clay, bioturbated with color variations		
-- 70 --	UNDISTURBED							75cm SS - Nanno ooze w/ <sup>mud</sup> clay		
-- 80 --										
-- 90 --								88 bioturbated contact 88 - next section slightly lighter bioturbated clay with more color variation at top of interval, bottom contact in next section		
-- 100 --						3				
-- 110 --										
-- 120 --		5Y 6/1								
-- 130 --										
-- 140 --					pyrite					
-- 150 --										

MAJOR LITHOLOGY: ferric clay

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					ROF	11/26/11
	5Y6/1	Clay	m sand forams				lighter bioturbated clay (continued from section above)		
		↓	↓	pyrite			10 bioturbated 10-125		
							Slightly reddish gray clay, bioturbated with color banding, lighter 87-93. gradational bottom		
							Forams present		
	10YR 6/1			pyrite					
						SS @ -75	Nanno ooze w/clay		
UNDISTURBED									
	10YR 6/1			pyrite					
	5Y6/1			pyrite			125 gradational 125 next section		
							lighter gray clay, bioturbated Some color banding		

MAJOR LITHOLOGY: Fine clay

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: Goss	Date: 11/27/11
			Avg.	Max.						
--0--		5Y6/1						Light bioturbated clay continued from above section Forams present		
--10--								Gradational colour change - bioturbated contact		
--11--								Bioturbated dark grey/light grey clay bands defined by burrows (Zoophycos)		
--20--		5Y4/1				(3) Slight x		Forams present		
--30--										
--31--										
--40--								Light grey bioturbated clay Forams present		
--50--										
--60--								@63 pyrite burrow		
--70--								Nannofossil Calcareous ooze w/ mud		
--75--								SS @ 75 @ 75 pyrite burrow (PB)		
--80--										
--90--								@ 91-92 PB		
--100--										
--110--										
--120--										
--123--								Gradational colour change - colour change contact		
--125--								Slightly reddish/grey clay (10YR6/1 & 5Y5/1) In colour bands defined by zoophycos Forams present		
--130--		10YR6/1								
--140--								@ 142 PB		
--150--										

NO DISTURBANCE

MASSIVE

Slight (3)

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOS	Date: 12/27/11
			Avg.	Max.						
-- 0 --								AS ABOVE		
-- 10 --								@ 9 PB		
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 75 --								@ 73 borrow fill with forams SS @ 75 - Muddy calcareous ooze nanofossil		
-- 80 --										
-- 90 --										
-- 96 --								Gradational colour change		
-- 100 --		5Y5/1						Light grey mottled clay 5Y5/1 - 5Y6/1 Forams present		
-- 110 --										
-- 120 --	NO DISTURBANCE				MASSIVE					
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
- 0 --								GLOSS	12/27/11	
- 10 --							AS ABOVE			
- 20 --										
- 30 --										
- 40 --										
- 50 --										
- 60 --										
- 70 --										
- 80 --										
- 90 --										
- 100 --										
- 108 --										
- 110 --										
- 120 --										
- 130 --	NONE	10YR 5/1			MASSIVE	Moderate (4)				
- 140 --										
- 150 --										

65  
 ↓ V. slight increase in redish clay 10YR 6/1

COLOUR CHANGE  
 Redish/grey clay, forams present  
 10YR 5/1 (slight 5Y 5/1 mottle)  
 Zndry.  
 - @126 PB  
 - @129 foram filled burrow

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/22/11
		Avg.	Max.						
-- 0 --							AS ABOVE		
-- 10 --									
-- 20 --									
-- 30 --									
-- 35 --							Gradational colour change bioturbated contact		
-- 38 --									
-- 40 --									
	545/1						Light grey bioturbated mud Forams present.		
-- 50 --									
-- 60 --									
-- 70 --									
				MASSIVE		SS @ 75	Silty-muddy calcareous ooze Nanno Fossil		
-- 80 --									
-- 90 --									
-- 100 --	NONE								
-- 110 --									
-- 113 --							Gradational colour change contact		
-- 114 --									
-- 120 --							Pale grey clay with distinct thin darker bands defined by burrows (dominantly Zoophycos & planolites)		
	546/1						546/1 with 545/1 mottle Forams present		
-- 130 --									
	NONE			MASSIVE					
-- 140 --							129 - concentration of zoophycos		
							140		
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --									SLOSS	11/27/11
4								AS ABOVE		
-- 10 --								Redish grey clay foram filled burrows shell present foram present Bioturbation dominantly zoophycus		
-- 20 --		10YR 4/1								
-- 30 --					MASSIVE					
-- 40 --	None					Moderate (S) TO (R)		Muddy Biogenic ooze Nanno		
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 12/27/11
		Avg.	Max.						
-- 0 --							AS ABOVE		
-- 10 --									
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					JLOSS	11/27/11
-- 0 --	Fill								
-- 5 --									
-- 10 --							light grey bioturbated clay Forams present		
-- 20 --	none				slight (2) →				
-- 29 --									
-- 30 --							slight reddish/grey clay		
-- 40 --							10YR5/1 with 5Y5/1 mottle Forams present		
-- 50 --				MASSIVE	Moderate (4) →				
-- 60 --									
-- 70 --	none					SSO 75	Nannofossil? Calcareous ooze w/clay		
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

-PB@117.

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					SLoss	4/27/11
-- 0 --								AS ABOVE		
-- 10 --										
-- 20 --								16 2nd Lith pale grey clay 545 <sub>1</sub> 27		
-- 30 --								Bands of 2nd lithology range 0.5cm - 1cm ↓		
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --		1042 5 <sub>1</sub>			Massive			69 2nd L pale grey clay SSO 75 ← 76 Minor 2nd lithology calcareous ooze w/ mud Nanno?		
-- 80 --	None									
-- 90 --								Bands of 2nd Lithology 0.5cm - 2cm ↓		
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A-9H-3

1385A-9H3A

61

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: Sloss	Date: 11/27/11
		Avg.	Max.						
-- 0 --							As Above		
-- 10 --							10 - 2nd lithology 15		
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --							60 - 2nd lithology 66		
-- 70 --							Thin bands of 2nd lithology ↓ & mottle (bioturbated) Nanno ooze w/mud 0.5cm - 1cm.		
-- 80 --							SS @ 75 - PB @ 83		
-- 90 --							- Foram fill burrow @ 90		
-- 100 --									
-- 110 --							- Foram fill burrow @ 105 - Foram & PB @ 110-111		
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

RR  
10/5/11

SS @ 75

Nanno ooze w/mud

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/27/11
			Avg.	Max.						
-- 0 --								AS ABOVE		
-- 10 --										
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --								- PB @ 46-48.5 50 2nd lithology 59		
-- 60 --										
-- 70 --										
-- 80 --								-SS @ 75 Nanno ooze w/mud		
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --	None	5Y5/1			Massive	Slight (3) →	SS @ 125	Sharp colour change contact Pale grey bioturbated mud with distinct zoophycus Forams present		
-- 134 --										
-- 140 --	None	10YR 5/1			Massive	Moderate (4) →		Reddish/grey mottled clay Forams present 10YR 5/1 with 5Y 5/1 mottle		
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/27/11
		Avg.	Max.						
-- 0 --							AS ABOVE		
-- 10 --									
-- 20 --									
-- 30 --							Decreasing 10 $\mu$ R $\frac{1}{2}$ & increasing 5 $\mu$ R $\frac{1}{2}$ down core		
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --	None $\uparrow$								
-- 81 --									
-- 90 --									
-- 93 --									
-- 100 --	5 $\mu$ R $\frac{1}{2}$			MASSIVE $\uparrow$					
-- 110 --					Moderate GyA				
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

SSD  $\times 10$  - Nanno ooze ~~with mud~~

Gradational loss of 10 $\mu$ R $\frac{1}{2}$   
Grey clay

5 $\mu$ R $\frac{1}{2}$  with 5 $\mu$ R $\frac{1}{4}$  mottle  
Forams present

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOS	Date: 11/27/11
		Avg.	Max.						
- 0 --							AS ABOVE		
- 10 --							- Foram burrows @ 10		
- 20 --							- PB @ 26		
- 30 --									
- 40 --							Colour change contact (sharp)		
- 50 --	5Y4						Medium-grey clay 5Y4, with 5Y3, malle Shells present forams present		
- 60 --	None								
- 70 --									
- 80 --						SS @ 75	Muddy White ooze w/ mud		
- 90 --				MASSIVE	Slight (2) →				
- 100 --									
- 110 --							- Foram fill burrows @ 110		
- 120 --									
- 130 --									
- 140 --									
- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/27/11
		Avg.	Max.						
-- 0 --							As ABOVE Forams present		
-- 10 --							-PB@ 10		
-- 20 --							-PB@ 14-15		
-- 30 --						SS@ 28	Muddy nanno fossil zone		
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by: Sloss	Date: 11/27/11
		Avg.	Max.						
-- 0 --							AS ABOVE		
-- 10 --									
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Depth	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
0		Grey 2 4/10Y			Massive	Slight		Dark grey clay light grey clay - Thin bed. GLEY 2 6/10GY	JLOSS	11/27/11
10	None									
16								Disturbed contact		
20										
30		Grey 7 5/5.10Y			Massive	Moderate		Light grey clay with a 5Y 5/1 mottle. Forams present.		
40	None							PB @ 42		
50										
60										
70										
75							SSe 75	Nonno ooze w/ clay		
80										
90										
100										
110										
120										
130										
140										
142								Colour change contact		
150		10YR 5/1			Massive	Moderate (3)		Reddish / Grey clay with a 5Y 5/1 mottle.		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: Sloss	Date:
			Avg.	Max.						
-- 0 --								AS ABOVE		
-- 10 --										
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --								- P. bebo		
-- 70 --										
-- 80 --								SSe K Silty-muddy <del>fine</del> Ooze Calcareous Nanno?		
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										134
-- 140 --										
-- 150 --										




MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Depth	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: <i>LOSS</i>	Date:
			Avg.	Max.						
0										
10								AS ABOVE		
20										
30	<i>None</i>				<i>Massive</i>					
48								Colour change contact (bioturbated)		
50		<i>10Y?? GLEY 2 4/1</i>			<i>Massive</i>			<i>Pale grey clay</i>		
60	<i>None</i>					<i>Slight (2) 3</i>		Colour change contact (bioturbated)		
70		<i>10YR 5/1</i>						<i>Reddish grey clay with a 5Y 5/1 mottle</i>		
75			<i>SS @ 75</i>		<i>Massive</i>			<i>Zoophagus evident</i>		
77						<i>Madrasite (3) 4</i>		<i>Muddy <del>clay</del> ooze Calcareous</i>		
80										
93								Colour change contact (bioturbated)		
98		<i>10Y?? GLEY 2 4/1</i>			<i>Massive</i>			<i>Light grey clay</i>		
100								Colour change contact (bioturbated)		
110		<i>10YR 5/1</i>						<i>Reddish grey clay Bioturbated (zoophagus) with a GLEY 2 4/1 mottle</i>		
120	<i>Core possible at this horizon</i>					<i>Slight (2) 3</i>		<i>Burrow @ 115-116</i>		
130								<i>Heave of ~6cm</i>		
137								<i>Some Burrows @ 127-122</i>		
140								<i>PBC @ 139-141</i>		
149								Colour change contact		
150								<i>Details see below</i>		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: JLOSS	Date:
		Avg.	Max.						
-- 0 --									
-- 10 --							Grey bioturbated mud with 5/5, mottle.		
-- 20 --	GREY 6/5GY				Slight (3)				
-- 30 --									
-- 40 --									
-- 50 --	None								
-- 60 --							Small offset @ 58cm 		
-- 70 --							Nanno ooze/mud <del>Muddy calcareous ooze</del>		
-- 80 --					ss@ 75				
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --							- Pyrite		
-- 140 --							- PB @ 138-140		
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A

Expedition 339: Mediterranean Outflow

U. 85A 104 5A

71

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: Gloss	Date:
			Avg.	Max.						
-- 0 --								Ass above		
-- 10 --	No disturbance	SY5,			Massive	Slight		Colour change contact Grey clay Forams present		
-- 20 --								-PB@ 22-24		
-- 30 --										
-- 40 --								Colour change contact		
-- 50 --	NONE	GREY S/104			Massive	Slight		Light grey clay Forams present Shell present @ 67		
-- 60 --										
-- 70 --										
-- 80 --							SS@ 75	- PB @ 75-76 Clayey Nanno ooze <del>is</del>		
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
	AS	ABOVE		↑			AS ABOVE	SSS	
-- 0 --									
-- 10 --									
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --						SS@ 75	Muddy Nannofossil ooze		
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --				↓					
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



1385A

Expedition 339: Mediterranean Outflow

U.S. 85A 10H 9A

73

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.5 2.0 3.0 4.0 5.0 6.0 8.0 10.0 15.0 20.0 30.0 40.0 60.0 80.0 100.0 150.0 200.0 300.0 400.0 600.0 800.0 1000.0



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/27/11
		Avg.	Max.						
-- 0 --									
-- 10 --	GLE/2 6/10y			MASSIVE	Slight 3		Colour change contact v. light grey clay with 5% mottle Forams present		
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A

Expedition 339: Mediterranean Outflow

VLSJA 10 H CCA

74



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date:
		Avg.	Max.						
-- 0 --							AS ABOVE		
-- 10 --				↑			AS ABOVE		
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: goss	Date: 11/27/11
		Avg.	Max.						
-- 0 --									
-- 10 --									
-- 20 --									
-- 24 --									
-- 30 --							SAME AS BASE OF 10H 1A		
-- 40 --				MASSIVE	Slight (B)		Light grey clay with a GLEY <sub>5/10y</sub>		
-- 50 --							PB @ 55 & 56cm		
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/27/11
		Avg.	Max.						
-- 0 --							AS ABOVE		
-- 10 --									
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 56 --							Colour change contact (gradational)		
-- 60 --	GLEY 1 4/104			MASSIVE	SLIGHT		<p>62 -&gt; dino - salt</p> <p>66 - Green/Grey GLEY 1</p> <p>67 - S/S9</p> <p>68 -</p> <p>75 cm: Nannofossil ooze with mud</p> <p>SSQ 75</p> <p>74 - Green/Grey ditto</p> <p>75 -</p> <p>76 -</p> <p>(Colour change gradational)</p>		
-- 70 --									
-- 80 --									
-- 90 --	GLEY 1 6/N			MASSIVE	SLIGHT		Light grey clay with GLEY 1 S/104 nodules Forams present		
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A

Expedition 339: Mediterranean Outflow

U.S.S.A 11H 3A

77

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOS	Date: 11/27/11
			Avg.	Max.						
-- 0 --										
			AS ABOVE					AS ABOVE		
-- 10 --										
-- 20 --	None									
-- 30 --										
37								Colour change contact (gradual)		
-- 40 --	None	GLE 1 4/104		Massive	Slight (3)			Dark grey/olive green clay		
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --							SS@ 75			
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --							SS@ 147	lens of GLE 1 S/SG 146-147 cm		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A

Expedition 339: Mediterranean Outflow

U-35A 11H 4A

78

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/27/11
		Avg.	Max.						
-- 0 --							AS ABOVE		
-- 10 --							-16-18 lense of GLEY 1 4/10 Y		
-- 20 --									
-- 30 --									
-- 40 --							35 Mottel of GLEY 1 4/10 Y 42		
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A

Expedition 339: Mediterranean Outflow

V 85A 11H 5A

79

	Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by: SLOSS	Date: 11/27/11
			Avg.	Max.						
-- 0 --										
		AS	ABOVE					AS ABOVE		
-- 10 --										
-- 20 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --								Slight GLEY 2 4/10y mottle.		
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --	None	GLEY 2 5/10y			Massive slight	(3)		Grading to a slightly lighter clay.		
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A

Expedition 339: Mediterranean Outflow

V-85A 11H6A

80

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					Gloss	11/27/11
-- 0 --									
		AS ABOVE				ABOVE.			
-- 10 --									
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 75 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

SS @ 75  
 75 cm: Nanno ooze with mud  
 - Gastropod @ 79

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

11F' 7A 1385A  
- 114-7

Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					SLOS	11/27/11
-- 0 --			AS				↖		
-- 10 --									
-- 20 --									
-- 30 --									
-- 40 --			AS				↘		
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					SLOSS	11/27/11
-- 0 --			AS	ABOVE			AS ABOVE		
-- 10 --									
-- 20 --									
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --	Fail to fill							GLOSS	11/27/11	
-- 10 --		GREY 5/10Y			Massive	Slight (2)		As Above ↑ CORE 11		
-- 20 --										
-- 27 --								Colour change contact (bioturbation)		
-- 30 --		GREY 4/5GY			Massive	Slight (3)		Dark <sup>olive</sup> grey bioturbated clay		
-- 40 --	None							PB 40-41		
-- 50 --								PB 52-53		
-- 60 --										
-- 70 --								75 cm: Muddy nannofossil ooze		
-- 80 --								SS @ 75		
-- 85 --								Pyrite nodules 85-86		
-- 90 --										
-- 100 --								3cm Fault		
-- 110 --										
-- 120 --								With an offset of ~1.5cm		
-- 130 --										
-- 140 --										
-- 150 --								missing core		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					g/oss	11/27/4
-- 0 --							AS ABOVE		
-- 5 --							Colour change contact		
-- 10 --	None	GLE Y1 5/10Y					1.6m GLE Y1 5/5G Thick laminated Dark grey clay		
-- 20 --							Gradational colour contact		Grading colour core
-- 30 --	None	GLE Y1 5/5GY		Massive	Slight 3				
-- 40 --							Gradational colour change		
-- 41 --									
-- 50 --	None	GLE Y1 5/10Y		Massive	Slight 3				
-- 60 --									
-- 69 --							Gradational colour change		
-- 70 --							Minor lith: 75 cm: Nannos ooze		
-- 80 --	None	GLE Y1 4/5GY		Massive + v. poorly laminated	Slight 3	SS	2nd lithology thinly laminated clay defined by colour GLE Y1 S10		
-- 86 --							Colour change contact (bioturbated) Grey bioturbated clay		
-- 90 --	crack GLE Y1	GLE Y1 4/10Y		Massive + v. poorly laminate ie. discontinuous laminations	Slight 3		2nd lithology thinly laminate to thickly laminated clay defined by colour GLE Y1 S10/10Y		
-- 100 --	None								
-- 110 --						SS @ 109	109 cm: Nannofossil ooze with clay		
-- 120 --									
-- 130 --									
-- 140 --		GLE Y1 4/10Y					Grey bioturbated clay ie lithology 1 core		
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

1385A 12H 3A

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: Sloss/RDF	Date: 11/27/11
		Avg.	Max.						
	AS ABOVE	Clay	fine sand forams				AS ABOVE - ends @ 149		
	GLEY 2 4/10Y	↓ all	↓ all			3	Bioturbated gray clay w/ slight color variation due to bioturbation. bioturbated contact		
	UNDISTURBED								
	GLEY 2 5/10Y					3	SS 75 cm: Nannofossil ooze with clay		
							- PB 119-120.		
							bioturbated slightly lighter gray clay, continues on next section		
	5Y 6/1					3			
	5Y 6/1						149 149 end		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11
		Avg.	Max.						
	5Y6/1	Clay	m sand forams				Top-29 lighter gray clay with some color variation due to bioturbation, gradual bottom contact		
		↓ all	↓ all						
				PPB					
	5Y5/1 matrix						29-31 bioturbated clay with darker matrix and light brown fills. bioturbated contact		
				44-46 chondrites			39-66 Olive gray clay with burrows filled by lighter units above. Chondrites, ? Zoopsis burrow		
	5Y4 1/2 olive gray								
							bioturbated contact		
	5Y5/1						66-89 gray clay with some color lamination due to bioturbation. bioturbated contact	SS	
							75 cm: Nannofossil ooze with mud		
UNDISTURBED							89-114 slightly lighter gray clay with some color lamination due to bioturbation		
	5Y6/1						bioturbated contact		
							114-128 slightly darker gray clay with occasional visible burrows,		
	5Y4/1						bioturbated contact		
							128-128 next section slightly lighter gray clay w/ some color lamination due to burrowing		
	5Y6/1								

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

1385A 12H 5A

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					ROF	11/27/11
--0--	5Y 6/1	Clay	m sand forams				(from above) Slightly lighter top-12 gray clay w/color variation due to bioturbation.		
--10--		all	all		3		12-12 end slightly darker gray clay with occasional lighter or darker burrow fills. extends to next section		
--20--	5Y 5/1			PB					
--30--									
--40--	5Y 5/1 =	greenish grey		PB	3		42-45 overlaying layer greenish gray layer, clay, bioturbation		
--50--	5Y 5/1								
--60--				PB					
--70--				PB	3				
--80--						SS	75 cm: Nanno fossil ooze with mud		
--90--	UNDISTURBED								
--100--				PB					
--110--									
--120--				PB	3				
--130--									
--140--				PB					
--150--									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11
			Avg.	Max.						
-- 0 --			Clay	m sand forams				continues from above		
-- 10 --		5Y 5/1	↓ all	↓ all		3				
-- 20 --										
-- 30 --								↓ biot. bottom contact		
-- 40 --					PB	3		31 slightly lighter gray clay, bioturbated with some color variation. bioturbated bottom contact		
-- 50 --		5Y 6/1								
-- 60 --										
-- 70 --								↳ Nanno Ooze w/clay		
-- 80 --				Chondites				74 SS@ 75: slightly darker gray clay, bioturbated with some color variation due to bioturbation, continues to next <del>core</del> section.		
-- 90 --		5Y 5/1				3				
-- 100 --		UNDISTURBED								
-- 110 --										
-- 120 --										
-- 125 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

1385A  
UL SA 12H 7A

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
--0--			clay	med fines				0-60. continued from above.	nava-f	11/27/11
--10--		5Y 6/1	↓ all	↓ all				Slightly bioturbated. gray clay with some color banding.		
--20--								Scattered. Pyrite grains throughout.		
--30--						3				
--40--							SS	30 cm: Nano ooze with clay		
--50--										
--60--	60									
--70--										
--80--										
--90--										
--100--										
--110--										
--120--										
--130--										
--140--										
--150--										

undisturbed.

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1385A

1385

90

Expedition 339: Mediterranean Outflow

U' 385A 12 H CCA



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --			clay	msd foam.					nava-f	11/27/11
-- 10 --	undisturbed	5Y 6/1	↓ all	↓ all		3		0-24 cont-max from above slightly bioturbated gray clay with some color banding.		
-- 20 --										
	24									
	29						PAL			
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	11/27/11
	5Y 5/1	Clay	m sand forams		3		0-27 gray mud with color bands due to bioturbation. bottom contact gradational.		
	5Y 6/1	↓ all	↓ all		3		27-71 slightly lighter clay with some color variation due to bioturbation.		
							75 cm Nanno ooze with mud		
UNDISTURBED	5Y 10/4 5/1 greenish gray			PB	3		71 biot. contact slightly darker greenish clay with some color variation due to bioturbation. bottom contact sharp, possibly due to a chemical reaction (Redox)		
	5Y 5/1			PB(2)			90-90 next section slightly lighter gray clay with some color variation due to bioturbation. Interval extends to next <del>core</del> section ↓		
				PB	3		90 cm Nanno ooze with mud		
				PB					

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					PDF	11/27/11
UN DISTURBED	5Y6/1 or N6/1	Clay	m sand forams	FB	3		bottom of above unit, bioturbated	PDF	11/27/11
		↓ all	↓ almost all				4 4-31 Slightly lighter clay w/color variations due to bioturbation, gradual bottom contact		
	5Y4/1		3			31 31-43 Somewhat darker clay w/ lighter color in burrows, biot. bottom contact.			
		SS 38 cm: Muddy nanno ooze							
	5Y5/1		3			43 43-73 82 Somewhat lighter gray clay w/ lighter + darker colors mixed by bioturbation, bioturbated bottom contact.			
		SS 75 cm: Nanno ooze with clay							
	5Y 5/1		3			82 82-122 generally darker clay with color variation due to bioturbation. Increasing abundance of black flecks going downcore. biot. bottom contact,			
	5Y4/1		3			122 slightly darker / browner clay w/some color variation due to bioturbation. goes into next section.			

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11
		Avg.	Max.						
	5G 5/1				3		last core - 137 sl. darker gray w/ some brown clay with some color variation due to bioturbation. gradual bottom contact Occurs over ~5 cm & bioturbated		
				PB PB PB	3				
					SS		49 cm: in green lamina Silty muddy nanno ooze		
	5G 5/1			PB					
				PB					
					3		75 cm: Nanno ooze with clay		
Un disturbed									
	5G 5/1			PB	3				
				PB					
	5G 6/1				3		137 137 to end slightly lighter gray clay with color variation due mostly to bioturbation gradual top contact, bottom contact in next section		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Depth	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --			clay	m sd. foram.				0-52	nava-f	11/27/11
-- 10 --		5Y			16, 18, 20 Zoophycos			continued from above		
-- 20 --		6/1				3		slightly bioturbated gray clay with some color banding		
-- 30 --					34, 36 Zoophycos			scattered pyr-to grains		
-- 40 --										
-- 50 --								52. foramed filled burrow. p-pe		
-- 52 --	52.		clay	m sd foram.	bioturbated contact.			52-125 slightly bioturbated dark gray clay with some color banding		
-- 60 --										
-- 70 --	undisturbed.							62-63. foramed filled p-pe → smear slide shows forams, but more terrigenous grains than forams qtz, calcite (see 55 form) Nannofossil ooze w/clay		
-- 80 --								82 foramed filled p-pe		
-- 90 --										
-- 100 --		5Y				3				
-- 110 --		5/1								
-- 115 --								115 foramed filled p-pe		
-- 120 --								119-120 d.H		
-- 130 --	125.		clay	m sd. form	bioturbated contact.			125-152 slightly bioturbated gray clay with color banding		
-- 140 --		5Y			131 Zoophycos 135 Zoophycos 139-140 Zoophycos 145-146 Zoophycos	3		very clearly Zoophycos occurrence.		
-- 150 --		6/1						↓ cont. new next section.		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

152

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	11/27/11
	5Y6/1	Clay	m sand sandy				0-43 Slightly lighter gray clay with color variation due to banding bottom contact gradual/grad bioturbated		
	5Y5/1	↓ all	↓ all				43 43-51 slightly darker clay with minor color variation		
	5Y6/1			Hydrobiolite xxxx			51 51-82 Slightly lighter clay with color banding due to bioturbation. Some iron sulfide staining @ 61-63 cm		
Undisturbed							SS 75 cm: Nanno ooze with clay		
	5Y5/1						greenish sharp contact (chemical?) 82 82 to next section		
				Sand-filled burrow			Slightly darker clay with color variation due to bioturbation. one sand-filled burrow.		
				)))))) ))))))  ))))))			}} burrows not horizontal which is normal		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-0--			clay	m sd (foram)					nana-f.	11/27/11
-10--			↓	↓		3		0-129 continued from above slightly bioturbated. gray clay scattered. Pyrite grains.		
-20--								* 19, 20, 30-31 gas tension crack.		
-30--		5Y								
-40--		5/1								
-50--										
-60--										
-70--										
-80--										
-90--										
-100--										
-110--										
-120--										
-130--										
-140--										
-150--										

caused by gas expansion slightly disturbed.

\* 32-32. Pyrite filled pipe.

\* 99-101. Pyrite filled pipe.

\* 122-123 Pyrite filled pipe bioturbated contact.

SS 75 cm: Nanno ooze with mud

129-153.5. slightly bioturbated gray clay scattered. Pyrite grains.

Continue to below sect. 7

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

1535



Expedition 339: Mediterranean Outflow



Depth	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --		5Y 5/1	Clay	m sand forams				continues from above slightly lighter gray clay w/ color variations due to bioturbation contact in next section.		
-- 10 --										
-- 20 --										
-- 30 --			all		PB					
-- 40 --	Un Disturbed							SS 34 cm: Nanno ooze with mud		
-- 50 --										
58										
-- 60 --	VOID									
65										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --	—	5Y 5/1	Clay	M sand forams				as above to 42		
-- 10 --	DISTURBED		↓	↓		3		sl. lighter gray clay w/ color variation due to bioturbation		
-- 20 --			all	all				no bottom contact.		
-- 30 --	SLIGHTLY									
-- 40 --	—									
42	VOID									42
48										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: R.D.F.	Date: 11/27/11
		Avg.	Max.						
--0--	5/1944	clay	m Sand forams		3		<p>Note: Core more greenish than that above.</p> <p>0-149 Greenish gray clay with color variation due to bioturbation, OCC pteropods, sand-filled burrows, Pyritized worm burrows more common gradual/bioturbated bottom contact</p> <p>5875 - Muddy Nanno ooze</p>		
--10--	5G4 5/1	all	all						
--20--	UNDISTURBED								
--30--									
--40--									
--50--				PB					
--55--				PB	3				
--60--									
--65--				PB					
--70--	5G4 5/1								
--80--				PB					
--85--				Pteropod					
--90--									
--100--				PB					
--110--				PB	3				
--120--									
--130--									
--140--									
--150--	5G4 4/1				3	149 - end (to next section) dk greenish gray clay, color variations from burrows.			

end 152.5  
MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	1/27/11
-- 0 --		Clay	m Sand	○ = sand-filled burrow	3		continues from above		
-- 10 --	5G4 5/1	(? max silt the above?)	(forams - rare)				greenish gray clay with color variations due to bioturbation. Numerous burrows filled w/ gtz & other minerals (+ few forams)		
-- 20 --		↓ all	↓ all	○			unit continues to next section		
-- 30 --				PB					
-- 40 --				PB	3				
-- 50 --				PB					
-- 60 --				○					
-- 70 --	5G4 5/1			long scan PB					
-- 80 --				○					
-- 90 --				PB	3				
-- 100 --				PB					
-- 110 --				○					
-- 120 --				○					
-- 130 --				PB					
-- 140 --	5G4 5/1			PB (Lagen)	3				
-- 150 --				PB					

UNDISTURBED, MINOR GAS CRACKING (also, v. slight doming)

45 SS - Nanno ooze w/ clay

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11
		Avg.	Max.						
	10GY 4/1 dk gm gry	Clay (? Silt more comm?)	m sand (forams & burrow fills)	oo oo oo o			bottom of above unit, biot contact 3-14 dk gm gm clay w/ color variations due to bioturbation. some burrows filled w/ sand grains, purplish layer near bottom (chem contact)		
	5GY 5/1	all	all	o )))))) ))))))			14 14-56 greenish gray clay, color variations due to bioturbation. <del>some</del> several zoophycus burrows, gradational/ biot. bottom contact.		
	10GY 4/1			PB ))))))  ))))))			56 56-64 dk gm gry clay w/ color variations due to bioturbation, some sand-filled burrows. ? purplish near bottom 64 biot contact.		
	5GY 5/1			o o o			75SS Nanno Core w/ clay 64 gm gry clay w/ color variations due to bioturbation. gradational/ bioturbated bottom contact,		
				))))))?					
				PB					
	10Y 4/1						107 dk gm gry clay w/ color variations due to bioturbation, A few silt-filled burrows. Continues to next sheet,		
	5GY 4/1								

UNDISTURBED (some gas cracking)

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11
			Avg.	Max.						
--0--			Clay	m sand (foss + biom fills)				top-141 continues: clay dk grn gry/w/ color variations due to bioturbation. gradual/bioturbated bottom contact.		
--10--		5644/1				4				
--20--										
--30--					o					
--40--					o					
--50--										
--60--						4				
--70--							175 SS	Nonno Ooze w/ mud		
--80--										
--90--										
--100--										
--110--										
--120--					o					
--130--										
--140--						4		(to next section)		
--150--		1044/1			o			141 dk grn gray clay with color variations due to bioturbation. This is a bit lighter than above unit, but a very gradual upper contact.		

Undisturbed (minor gas cracks)

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
								nana f	11/27/11
--0--							0-37. Continued gray clay <del>stippled</del>		
--10--							moderate bioturbated. with some color banding		
--20--	10Y 4/1				4				
--30--									
--40--							37-53. dark gray clay moderate bioturbation scattered pyrite grains		
--50--	5GY 4/1			bioturbation contact.	4				
--60--							53-125 gray clay moderate bioturbation scattered pyrite grains		
--70--	10Y 4/1			bioturbation contact.					
--80--					4		Continued to CC. (w/ clay)		
--90--									
--100--									
--110--									
--120--									
--125--									
--130--									
--140--									
--150--									

Slightly disturbed by gas expansion.

75 SS

Nanno ooze

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

1385A PAL 11/27/11



Depth	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
0--	Slightly disturbed	10Y 4/1	clay	med foram.		3		0-20 continues from above Slightly bioturbated- gray clay Scattered pyrite grains?	vancouver	11/27/11
10--										
20--							PAL			
30--										
40--										
50--										
60--										
70--										
80--										
90--										
100--										
110--										
120--										
130--										
140--										
150--										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.						
--0--	dist.					SS	D-151	RDF	11/27/11
--10--		Clay	m sand forams, sand-filled bottom		4		Major lithology 60% greenish clay with color variations due to bioturbation.		
--20--	56Y5/1	↓ all	↓ all				Minor lithology 40% dark greenish clay with color variations due to bioturbation		
--30--							bioturbated bottom contact		
--40--				PB			thin to medium bedded interbedded		
--50--							75 ± cm: Muddy nannofossil ooze.		
--60--	56Y4/1				4				
--70--						75cm SS			
--80--									
--90--				PB					
--100--									
--110--					4				
--120--				PB					
--130--									
--140--	56Y 5/1				4				
--150--									

151

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					ROF	11/27/11
- 0 --			Clay	m Sand forams, bioturb fill				0-154 SS, ± cm! Nanno ooze with clay 75um		
- 10 --		SGY S/I	↓ all	↓ all	PB	4		Major lithology 60% Greenish clay with color variations due to bioturbation		
- 20 --					PB O			Minor lithology 40% dark greenish clay with color variations due to bioturbation.		
- 30 --					PB			bioturbated bottom contact		
- 40 --						4		thin-med bedded interbedded		
- 50 --					PB O O					
- 60 --					PB PB					
- 70 --					O O					
- 80 --						4				
- 80 --					O					
- 90 --					mm? mm)					
- 100 --					mm)					
- 110 --					O PB O					
- 120 --										
- 130 --					O	4				
- 140 --					PB PB PB					
- 150 --										

154 MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	4/27/11
0		Clay	M Sand forams	PB	4	SS 2cm	0-154 Major lithology: <sup>70%</sup> greenish gray clay with color variations due to bioturbation		
10	10Y5/1	↓ all	↓ all				Minor lithology: <sup>30%</sup> dk greenish gray clay with color variations due to bioturbation		
20							Layering size - <sup>fine to</sup> medium bedded		
30							but. bottom contact Interbedded		
40							<sup>15</sup> <del>1cm</del> : Nanno ooze with clay		
50	10Y4/1			Prepacked	4				
60									
70				PB		SS 75cm			
80				PB					
90	Gas cracking 5G4 5/1				4				
100									
110				PB PB					
120				PB					
130	10Y5/1				4				
140									
150				0					

MAJOR LITHOLOGY: 154

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:	
		Avg.	Max.					PDF	1/27/11	
	5G4 5/1	Clay	M. Sand forams		4		0-153 Major lithology 70% greenish grey 5G4 5/1 clay with color variations due to bioturbation			
			↓ all	↓ all			Minor lithology 30% greenish grey 10Y 5/1 clay with color variations due to bioturbation			
					o					
						4		Inter bedded, medium beds biot. contact.		
		10Y 5/1			o					
					PB					
								SS 75 cm: Nanno ooze with clay		
						4				
		10Y 5/1			o					
					o					
					o					
					o					
		5G4 5/1			o	4				
					PB					
					PB					

153 end  
MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	"/27/11
0			clay	in sand forams		4	0-46 cm <del>(continues from previous sheet)</del> greenish gray clay w/ color variations related to burrows. bottom contact bioturbated			
10		5G4 5/1	↓ all	↓ all	PB					
20										
30										
40					PB	4				
46							46-75 slightly lighter greenish gray clay with color variations due to bioturbation. gradual/biot. contact w/ layer below			
50		5G4 6/1				4				
60										
75							75 cm: Muddy nanno ooze			
75							75-92 dk greenish gray clay w/ color variations due to bioturbation. bottom contact gradual/bioturbated			
80		10Y 4/1				4	SS			
90							92			
92							92-(onto next core)			
100		5G4 4/1				4	dk greenish gray clay with color variations due to bioturbation. contact next page			
110										
120										
130										
140										
150		10Y 5/1								


Gas cracking

(155)

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. / struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	11/27/11
							top - 73 dk greenish gray clay with color variations due to bioturbation, bottom contact gradual & bioturbated		
	5G4 4/1	Clay	m sand forams	o o o o	4				
				all	AB	4		SS 48 cm: Muddy nanno ooze	
gas cracking	5G4 4/1								
	10Y 5/1				4		73 greenish gray clay with color variations due to bioturbation & this interval goes off the bottom of the next <del>page</del> section.		
97									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	11/27/11
-- 0 --	↑ slight ↓	5G4 5/1	Clay	msand (forams)		4		Continues from above greenish gray clay with color variation due to bioturbation. interval goes off bottom of core.		
-- 10 --										
-- 19 --										
-- 20 --	↓ VOID ↑	19 24								
-- 24 --										
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:



Expedition 339: Mediterranean Outflow



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 1/27/11
		Avg.	Max.						
--0--			Clay				0 - next section		
			↓				greenish gray clay with color		
--10--	5GY 5/1		all		4		variation due to bioturbation		
			↓				contact in next section		
--20--			all						
--26--							Contains interval:		
--30--							Soupy interval with		
							"moose-like texture"		
--40--							Possibly melted hydrate		
--50--									
--60--									
--68--									
--70--									
--75--									
--80--									
--85--									
--90--	5GY 5/1								
--95--									
--100--									
--105--									
--110--									
--115--									
--120--									
--125--									
--130--									
--135--									
--140--	5GY 5/1								
--145--									
--150--									
150									
--150--									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: E.D.	Date: 27/11/11
			Avg.	Max.						
--0--		5GY 5/1	clay	m/f ss		3				
--10--			↓	↓					0-13 continues from above, greenish gray clay scattered pyrite grains.	
--15--			all	all	bioturbation contact					
--20--		5GY 5/1								
--30--								13-15] greenish gray clay with color variations such as greenish band or brown band, thickness are ~2 cm order. Scatter pyrite grains and white sand patches (d ≤ 5mm). continues to 3A.		
--40--										
--50--										
--60--										45-52 long burrow filled pyrite
--70--						3				
--80--										SS 75 cm: Nanno ooze with clay
--90--										
--100--										
--110--										
--120--										
--130--										
--140--										
--150--										

UNDISTURBED (very little cracks due to gas expansion)

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11			
			Avg.	Max.									
-- 0 --	↑	GY5 4/1	Clay	m. sand				Continues from last section: Major lithology: 70% greenish gray clay with color variations due to bioturbation.  Minor lithology 30%  dk greenish gray clay with color variations due to bioturbation. silt-filled burrows common	RDF	11/27/11			
-- 10 --				↓	↓								
-- 20 --				all	all								
-- 30 --						0							
-- 40 --						PB							
-- 50 --				GY5 5/1							4		
-- 60 --												biot. bottom contact	
-- 70 --			GAS EXPANSION									52 greenish gray clay with color variations due to bioturbation, esp. common in top of <del>unit</del> interval (55-82 cm)	SS
-- 80 --												unit goes onto section H4.	
-- 90 --													
-- 100 --					PB								
-- 110 --		584 5/1											
-- 120 --													
-- 130 --													
-- 140 --		504 5/1											
-- 150 --	↓												

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:	
			Avg.	Max.							
-- 0 --		56Y 5/1	Clay	in sand forams (several)							
-- 10 --				↓	↓						continues from above grn gry clay with color variations due to bioturbation, biot. lower contact
-- 20 --				all	all						7. 7-end of section (155)  Major Lithology 60% grn gry clay w/ color variations due to bioturbation
-- 30 --											Minor Lithology 40% dk grn gry clay w/ color variations due to bioturbation
-- 40 --			10Y 4/1								
-- 50 --											
-- 60 --											
-- 70 --						PB					
-- 80 --						Pp					
-- 90 --						PB					75 cm: SS Nanno ooze with clay
-- 100 --						PB					
-- 110 --						PB					
-- 120 --						PB					
-- 130 --						PB (b <sub>1</sub> )					
-- 140 --			10Y 4/1			PB (b <sub>1</sub> )					
-- 150 --					0						

MAJOR LITHOLOGY:

155

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11
		Avg.	Max.						
0	5G4 5/1			PB	4		0-124 Major Lithology 80% greenish gray clay with color variation due to bioturbation		
10				PB					
20							Minor lithology 20% dk greenish clay with color variations due to bioturbation		
30				PB PB	4		interlayered medium bedded bioturbated both contact		
40	5G4 4/1			PB					
50									
60									
70	5G4 4/1			PB			75 cm: Muddy nanno ooze	SS	
80									
90									
100									
110	10G 5/1			PB					
120									
130	5G4 4/1				3		124-136 Greenish gray clay with color variation due to bioturbation biot. lower contact		
140							136-end gray dk greenish clay with color variation due to bioturbation bottom contact @ end of section		
150	141			PB PB	3				

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					nana-f	11/27/11
-- 0 --		5Y 5/1	clay	m ~ c sd.				0-149. Continues from above		
-- 10 --			↓ all	(forams) ↓ all.				Dark gray clay with some color banding. Such as green and brown bands, thickness are. 1 ~ 3 cm order.		
-- 20 --								Scattered. Pyrite nodules and white sand patches through the section.		
-- 30 --								Continues to CC.		
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --	undisturbed.							SS 75 cm Nanno ooze with clay		
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow



	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.						
-- 0 --			clay	from sd				0-22	hana-f	11/27/01
-- 10 --		5Y 5/1	↓ all	↓ all	• 14 pyrite nodules d=5mm	3		continues from 6A Dark gray clay slightly bioturbated.		
-- 20 --	22						PAL			
	27									
-- 30 --										
-- 40 --										
-- 50 --										
-- 60 --										
-- 70 --										
-- 80 --										
-- 90 --										
-- 100 --										
-- 110 --										
-- 120 --										
-- 130 --										
-- 140 --										
-- 150 --										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
		Avg.	Max.					RDF	11/27/11
0--	3	Clay	m sand forams				0-151:		
sl. dist	5G4 4/1	↓	↓				Major lithology: 60%		
10--		all	all				greenish gray clay with color alteration due to bioturbation		
19							Minor lithology: 40%		
dist.							dk greenish gray clay with color alteration due to bioturbation		
24							Interbedded, medium bedded, bioturbated contacts		
30--							Disturbed bottom contact		
40--	5G4 4/1			PB					
50--				PB					
60--	10Y 5/1								
70--							70 cm SS Nanno ooze with clay		
80--									
90--									
100--	5G4 5/1			PB					
110--									
120--	5G4 4/1								
130--									
140--									
150--									

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

151



Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: <i>nana-f</i>	Date: <i>11/27/11</i>	
			Avg.	Max.							
-- 0 --			<i>clay</i>	<i>f-med (forams)</i>				<i>0-94</i> continued from above. Dark gray clay. Slightly bioturbated.			
-- 10 --			<i>↓</i>	<i>↓</i>				Scattered. pyrite nodule			
-- 20 --	<i>Some parts occurred gas extension.</i>										
-- 30 --		<i>56%</i>			<i>*23-26. Pyrite p.p. (d=5mm)</i>						
-- 40 --		<i>4/1</i>				<i>3</i>					
-- 50 --											
-- 60 --											
-- 70 --											
-- 80 --		<i>Undisturbed</i>							<i>SS 75 cm: Nanno ooze with clay</i>		
-- 90 --											
-- 100 --				<i>clay</i>	<i>f-med (forams)</i>	<i>bioturbated contact</i>			<i>94-153</i> Light gray clay slightly bioturbated with brown color banding		
-- 110 --				<i>↓</i>	<i>↓</i>						
-- 120 --		<i>10%</i>									
-- 130 --		<i>5/1</i>				<i>3</i>		<i>SS 120 cm: Clayey nanofossil ooze</i>			
-- 140 --											
-- 150 --								<i>continued to below</i>		<i>(3A)</i>	

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date: 11/27/11
		Avg.	Max.						
	10Y 5/1	Clay	m sand forams		3		(cont from H2) greenish gray biot. clay		
		↓ all	↓ all						
							19 19-151		
	10Y 4/1				3		Major lithology: 80% dk greenish gray biot clay w/ color variation due to biot.		
							Minor lithology 20% greenish gray clay w/ color variation due to biot.		
				PB			interbedded medium beds		
				PB			bioturbated contacts		
						SS	70 cm: Nanno ooze with clay		
gas expansion	10Y 5/1				4				
				PB					
	10Y 4/1				4				
				114% ptempod					
				PB					
	10Y 4/1				4				

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					nana-f.	11/27/11
--0--			clay	fms (forams)				0-156. Continues from above.		
--10--						3		Slightly bioturbated. dark gray clay. Scattered. Pyrite grains.		
--20--								64-68, 82-86, greenish. colour banding		
--30--										
--40--										
--50--										
--60--		lof 5/1								
--70--	gas extension occurred through the section.					3	SS	70 cm: Muddy nanno ooze		
--80--	Undisturbed.									
--90--										
--100--										
--110--										
--120--										
--130--						3				
--140--										
--150--										

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

156cm

Expedition 339: Mediterranean Outflow

	Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by:	Date:
			Avg.	Max.					RDF	1/27/11
-- 0 --		5G4 4/1	clay	m Sand forams	plastic?	4		0-79		
-- 10 --			↓ all	↓ all				dk greenish gray clay w/ alternating colors due to bioturbation		
-- 20 --										
-- 30 --										
-- 40 --		5G4 4/1								
-- 50 --										
-- 60 --										
-- 70 --						4				
-- 80 --	gas expansion	5G4 4/1								
-- 90 --		10Y5/1						62 cm: Muddy nanno ooze		
-- 100 --						4		79 biot. / gradual contact		
-- 110 --								79-119 greenish gray clay w/ color variations due to bioturbation.		
-- 120 --		5G4 5/1						comment: internal somewhat lighter color at bottom		
-- 126 --		5G4 4/1				4		5G4 5/1		
-- 130 --								119 biot. contact		
-- 140 --								119 next section		
-- 150 --								dk greenish gray clay w/ color alteration due to bioturbation		
								126 end section		

MAJOR LITHOLOGY:

MINOR LITHOLOGY:

Expedition 339: Mediterranean Outflow



Drilling disturb.	Color	Grain-size		Sed. struct. / contact	Bioturb.	Samples	Comments	Logged by: RDF	Date:
		Avg.	Max.						
-- 0 --	1064 4/1	Clay	fine sand fragments		4		continues: dk greenish gray clay w/ alternating colors due to bioturbation		
-- 10 --	Slight Dist	↓ all	↓ all				↓		
-- 20 --	21						21		
	Void								
	26								
-- 30 --									
-- 40 --									
-- 50 --									
-- 60 --									
-- 70 --									
-- 80 --									
-- 90 --									
-- 100 --									
-- 110 --									
-- 120 --									
-- 130 --									
-- 140 --									
-- 150 --									

MAJOR LITHOLOGY:

MINOR LITHOLOGY: